



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,868	12/16/2004	Daniel Decroupet	4004-065-30 NATL	2902
30448	7590	01/22/2008		
AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			EXAMINER MCDONALD, RODNEY GLENN	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 01/22/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/517,868	<b>Applicant(s)</b> DECROUPET ET AL.	
	<b>Examiner</b> Rodney G. McDonald	<b>Art Unit</b> 1795	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,9-12,19-22,24-29,33 and 35-40 is/are pending in the application.
- 4a) Of the above claim(s) 22,24-29,33 and 35-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-12 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6-2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I in the reply filed on November 16, 2007 is acknowledged. The traversal is on the ground(s) that the claims are using improper hindsight to determine the technical feature. This is not found persuasive because the product claims lack the technical feature of depositing the films by cathode sputtering.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 6, 9, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2, 3, 6, 9, 10, 11, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 9, 10, 12 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Lingle (U.S. Pat. 6,445,503).

Regarding claim 1, Lingle teach a method for the production of a glazing with a multilayer coating, the multilayer coating being deposited on a glass substrate by cathodic sputtering at reduced pressure. (Column 10 lines 50-53; Fig. 1A) A first transparent dielectric layer is deposited on the substrate (i.e. SnO, TiO). An infrared reflective layer of silver is deposited on the substrate. A first protective layer of NiCrOx is deposited as the first protective layer with a geometric thickness of 2.8 nm and composed of a material, of which the electronegativity different from oxygen is less than 1.9 and of which the electronegativity value is less than that of the infrared reflective material. A second protective layer of TiO<sub>x</sub> with a thickness of 2.5 nm is deposited, of which the electronegativity difference from oxygen is greater than 1.4 and that at least a second transparent transparent dielectric layer is then deposited. (i.e. SiN<sub>x</sub>) The atmosphere during the sputtering of the first protective layer of NiCrOx is has at a maximum 20% oxygen. The atmosphere during the sputtering of the second protective layer has at a maximum 50% oxygen. (see Table III; abstract)

Regarding claim 2, Lingle teach the first protective layer is composed of a material NiCrOx of which the electronegativity different from oxygen is less than 1.8. (See table III)

Regarding claim 3, Lingle teach the second protective layer is composed of a material TiOx, of which the electronegativity difference from oxygen is greater than 1.6.

Regarding claim 4, Lingle teach the electronegativity value of the material of the first protective layer (i.e. NiOx, NiCrOx) is at least 0.05 less than that of the infrared reflective material silver. (See Abstract; Table III)

Regarding claim 5, Lingle teach the material of the second protective layer (i.e. TiOx) has a lower electronegativity value than the electronegativity value of the material of the first protective layer (i.e. NiOx, NiCrOx). (See abstract; table III)

Regarding claim 6, Lingle teach the material of the second protective layer (TiOx) has an electronegativity value at least 0.1 less than the electronegativity value of the material of the first protective layer (i.e. NiOx, NiCrOx). (See Abstract; table III)

Regarding claim 9, Lingle teach the first protective layer is NiCr based. (See table III)

Regarding claim 10, Lingle teach the material of the second protective layer is selected from titanium. (Table III)

Regarding claim 12, Lingle teach the second protective layer is 2.5 nm. (See Table III)

Regarding claim 21, Lingle teach the glazing can be bent. (Column 8 lines 54-57)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lingle (U.S. Pat. 6,445,503) in view of Laird et al. (6,936,347) .

Lingle is discussed above and all is as applies above. (See Lingle discussed above)

The differences between Lingle and the present claims is that the thickness of the first protective layer is not discussed (Claim 11).

Regarding claim 11, Laird et al. teach that the thickness of NiCrO layer can be 5-100 Angstroms. (See Table 1)

The motivation for utilizing the features of Laird et al. is that it allows for making insulating glass units. (See Abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Lingle by utilizing the features of Laird et al. because it allows for making insulating glass units.

Claims 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lingle (U.S. Pat. 6,445,503) in view of Guiselin (U.S. Pat. 5,595,825).

The differences between Lingle and the present claims is that the at least two functional layers based on an infrared reflective material are deposited, each followed by the deposit of first and second protective layers, and in that at least one intermediate dielectric layer is deposited between the functional layers is not discussed (Claim 19).

Regarding claim 19, Guiselin teach depositing at least two functional layers of NiCr and tantalum oxide. and at least two infrared reflective metal layers. (See Fig. 1; Column 5 lines 25-40) Laird et al. teach depositing tin oxide between a NiCr layer and a titanium oxide layer. (See Laird et al. Table III)

The motivation for utilizing the features of Guiselin is that it allows for producing glass appearance pleasing to the eye. (Column 1 lines 53-59)

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Laird et al. by utilizing the features of Guiselin because it allows for producing glass appearance pleasing to the eye.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lingle (U.S. Pat. 6,445,503) in view of Szczyrkowski et al. (U.S. Pat. 5,279,722).

The differences between Lingle and the present claims is that a titanium based protective layer deposited to terminate the multilayer coating is not discussed (claim 20).

Regarding claim 20, Szczyrkowski et al. suggest terminating a coating stack with a titanium based protective layer. (See Abstract)

The motivation for utilizing the features of Szczyrkowski et al. because it allows for producing panes with high reflectivity. (See Abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Lingle by utilizing the features of Szczyrkowski et al. because it allows for

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M-Th with every Friday off..

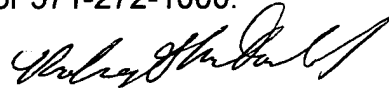
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Application/Control Number:  
10/517,868  
Art Unit: 1795

Page 8

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rodney G. McDonald  
Primary Examiner  
Art Unit 1795

RM  
January 16, 2008